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in search of SIMPLICITY

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business agility and the bottom line.

It's time for a war on complexity. 30

BY KIM S. NASH

BUSINESS TECHNOLOGY LEADERSHIP

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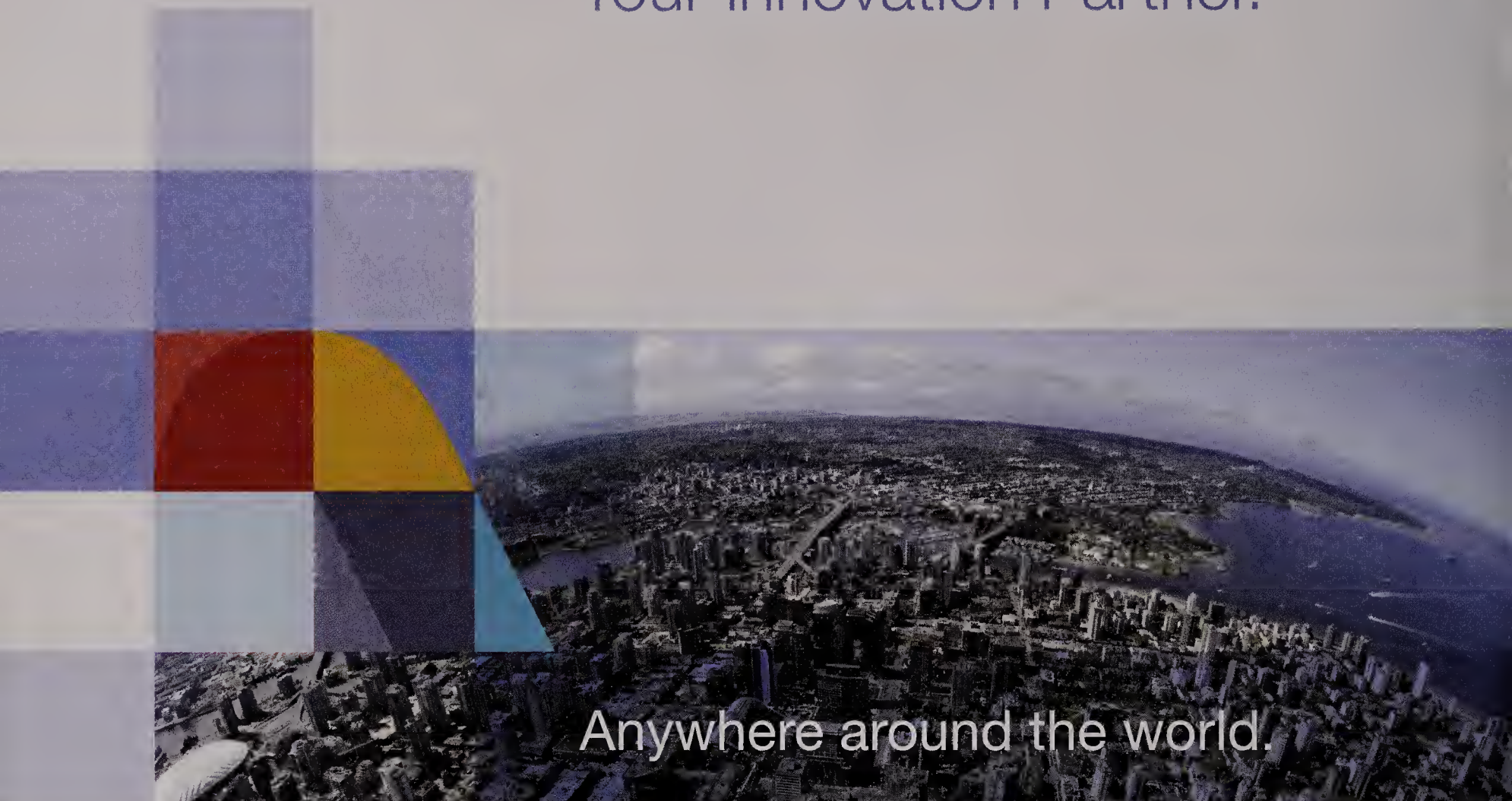
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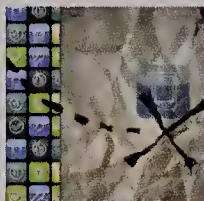
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COVER STORY Our tangled mess
 of technology hurts business
 agility and the bottom line.
 It's time for a war on complexity.

BY KIM S. NASH



Kevin Humphries, SVP of IT at FedEx, says that
 simplicity was a key goal in planning a new data center
 that is one-third the size of the one it will replace.

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FROM THE
EDITOR IN CHIEF

start

CHATTER

Simple vs. Complex

Ah, the complexities of simplicity. The word conjures up Zen-like notions of easy understanding, natural approaches and intuitive use. Like when I recently watched a 2-year-old march over to the TV set and try to change channels by swiping her chubby fingers across the screen (just like Daddy does with his smartphone). Imagine how disappointed she'll be when she tries to work the ridiculously complex remote control (which even most grown-ups can't figure out).

In today's consumer-dominated business world—where CIOs look to deliver “Apple-simple” office tools requiring no training—simplicity has become a code word for speed, flexibility, agility and success.

“This is about killing complexity. As you do, you get faster,” says CIO Charlene Begley of General Electric, one of the IT leaders interviewed for our cover story (“In Search of Simplicity,” Page 30.) “It's about competitiveness.” Simplifying IT operations and processes is one of Begley's four strategic imperatives for IT, as she strives to halve the number of GE data centers and lop out 85 percent of its ERP systems by 2016.

In talking with IT executives at GE, FedEx and McDonald's for this story, Senior Editor Kim S. Nash discovered how very complicated efforts to achieve simplicity can be. CIOs and business leaders must identify what to prune, then finance and staff the project, then make more plans “to stop complexity from snaking its way back in,” she writes. “It's an ongoing battle, but one that could be worth millions to win.”

Yes, millions. When researchers at The Hackett Group compared high-performing companies to average ones, they noticed that the typical firms were running twice as many data centers as the world-class ones, which also run fewer applications and at lower cost.

At FedEx, complexity reduction is “the largest theme we're working on,” says Kevin Humphries, senior vice president of IT. He recently opened a new data center that will serve as the \$39 billion company's main IT facility, even though it's one-third the size of the one it replaces. “You would be shocked to see the walls and walls and walls of excruciating detail to make something very complex end up simplified,” Humphries told us.

As desirable as IT simplification sounds, such efforts often fail—and ironically, it's because they lack detailed (that is, sufficiently complex) plans. How are you dealing with the complexity of simplicity at your company these days? Write in and let us know.

Maryfran Johnson, Editor in Chief, *CIO Magazine & Events*
mfjohnson@cio.com

Where's the CIO in BYOD?

Where does IT fit in a bring-your-own-device (BYOD) world? Contributing writer Rob Enderle has noticed that users have been going directly to **online services** like **Google and Amazon**, and this BYOD trend is making IT services **redundant**. CIOs need to adapt and make themselves **relevant** in a consumerized world by helping with **device selection** and getting **volume discounts** for employees, for example. www.cio.com/article/707448

Beware of the Like

A recent Gartner report showed that **monitoring employee behavior** in digital environments is on the rise. Senior Writer Kristin Burnham talked with a research VP at Gartner, who said that surveillance of employees can both **mitigate and create risk**. Monitoring social media is nothing new, but accessing employee information through social media can open the company up to **serious liabilities** if, for example, a manager reviews a Facebook profile to determine someone's religion or sexual orientation. blogs.cio.com/node/17127

New Security Role in EU

Organizations in the European Union may soon be searching for candidates for a role called the **data protection officer (DPO)**. Senior Online Writer Thor Olavsrud says the DPO role would require **significant security experience** and those who filled it would report to their **board of directors**. The need for this position stems from the EU's new data-protection laws. Security experts say the regulations are so detailed that a DPO is crucial—any business that goes without one risks unwittingly violating a law, which can be punished by hefty fines. www.cio.com/article/707471

Compiled by Editorial Assistant Lauren Brousell. Have a comment about a story in this issue? Go to www.cio.com/issue/20120701 or write to letters@cio.com.

Smarter technology for a Smarter Planet:

The cloud that's transforming an industry, one fish at a time.

At the University of Bari, a new computing model is creating new business models. Using an IBM SmartCloud™, their team built a solution that allows local fishermen to auction their catch while still at sea. By creating more demand for the fishermen's product, the cloud has increased income by 25% while reducing time to market by 70%. Now the team is scaling the solution to create new business models for the winemaking and transportation industries. What can cloud do for your business? A smarter planet is built on smarter software, systems and services.

Let's build a smarter planet. ibm.com/cloudsolutions



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FROM THE **CEO**

Future Watch

During my recent travels, I met with a leading angel investor and we talked about the amazing roll that the technology sector is on right now. Consider the incredible amounts of investment flowing into companies like Facebook, Jive, LinkedIn, Instagram, Yammer, Box and DropBox. Or spend a few days at events like DEMO (our Silicon Valley-based conference for emerging technologies), and you'll see why investors are so enthusiastically drawn to the technology startup community.

I asked my investor friend what he considers the "special sauce" that convinces him to buy into a technology startup. He replied with five simple words: social, mobile, geolocation, gaming and commerce (meaning both the online and mobile varieties). If a company does three of these things in concert, it gets his attention. Four of them and he's seriously interested. Five and it's guaranteed his checkbook will be open.

What is so fascinating about venture capitalists is that they always seem to be ahead of the market. How do they catch those waves so early? How do they know a certain company will be a hit while others will fizzle? My friend said it's not necessarily about the company or its leadership team, but about the trends themselves. In today's market, the business trends of tomorrow are being created by what's happening now in the social and consumer ecosystems.

So tell me, how much attention is your IT organization paying to these five key trends? We know from our coverage in *CIO* that mobile, social and IT consumerization are high on your radar. Have you already moved all new development to a mobile-first environment? Are you approaching business peers about building customer tools that take advantage of "SoLoMo?" That's the buzzword coined earlier this year—a combination of "social," "local" and "mobile"—to describe the social-media savvy, mobile-centric version of hyperlocal search (think Groupon, Yelp and Foursquare). Are you creating data mash-ups that help predict customer behavior or drive real-time pricing strategies?

These are the kinds of questions IT leaders should be thinking through now and ready to answer soon. The speed of change seems to increase by the month, and you can follow the venture capitalist money to watch our future unfolding.

What are you doing to keep up? Write in and let me know.

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Gone **Phishing**

Cybercriminals are getting more savvy with their phishing lines. Here's how to spot a scam.

1 Hover. Don't click links in an email, says Daniel Peck, a research scientist with Barracuda Networks, a security provider. Point your mouse and hover to see a URL. Links that don't go to legitimate domains are telltale signs of phishing emails.

2 Check the email's properties. In Outlook, go to the File tab, select Properties, and look at the box labeled Internet Headers. This shows the email's path to the end user, Peck says. "If they're not from trusted email blast systems, those are tipoffs."

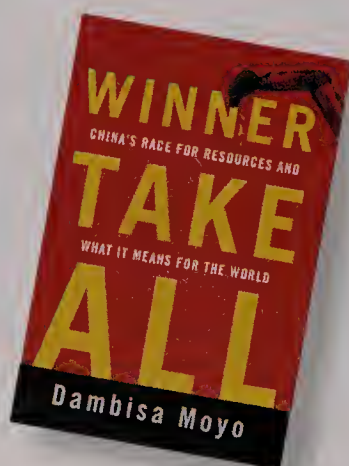
3 Crosscheck. If your bank or credit card company sends you a fraud alert, that same alert will be on their website, says Peck. Still unsure? Call the phone number on the back of your credit card.
—Meridith Levinson



For more tips, see: www.cio.com/article/703977



WORTH READING



BOOK Winner Take All: China's Race for Resources and What It Means for the World
By Dambisa Moyo

Moyo, a Zambian-born, Oxford- and Harvard-educated economist, writes of concerns that China is quickly buying up natural resources, making other countries more dependent on it for financial support. Oil, she says, is a big topic now, but soon water will be too. *Basic Books, \$26.99*

quick FIX



How can I increase my credibility and political power as a CIO?

ALWAYS leave IT jargon in IT. Communicate with your business counterparts in a way that is relevant to them. Personally meet with stakeholders regularly to be sure you understand their priorities. Know what is driving their business decisions and personal stress levels. Understand how they define success and disaster. Pay attention to the words they use to describe what is most important to them. Then create a file of those words to use when you communicate your IT plans, accomplishments and budgets back to them.

SOMETIMES use time outside the office to develop deeper relationships with your stakeholders, supporters and adversaries. Taking time to eat and drink with your business partners and learn about them on a personal level will help during tough negotiations in the future. The time you invest will be paid back to you through fewer time-consuming challenges to your judgment and plans.

NEVER try to teach business leaders about technology. When you present to the board of directors, leave all talk of virtualization, data centers and cloud behind. They don't care, and it will annoy both of you. Focus on business needs, like attracting new customers or reducing operating costs. This also goes for how you present your budget. Steer clear of writing a list of IT stuff no one outside IT understands; all anyone will see is that large total. Instead, associate each line item with initiatives that the business understands and wants. That way, if they want you to cut costs, they know they have to cut something they want.

Patty Azzarello is a business adviser through www.AzzarelloGroup.com and the author of *Rise: 3 Practical Steps for Advancing Your Career*.

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Make a Move

It's time to change how we—hiring managers and applicants alike—think about relocating for a job **BY KRISTEN LAMOREAUX**

Companies tend to tread lightly with candidates who say they're open to relocation. Hiring managers often view them as desperate. With the current scarcity of good hires and good jobs, this has to change. There are thousands of talented people who have the relocation rigmarole down pat.

“There are only so many X-level roles in one city.”

—Jason Athanas, IT executive and experienced mover

Take Jason Athanas, an IT executive due to relocate from Miami for his spouse's job. Jason is a pro at relocation, having moved ten times in his career. Five were prompted by the organization he was working for at the time, one was an expatriate assignment, and the others were new roles with new companies.

“My spouse and I love being relocated,” says Athanas, adding that sometimes a move is critical to developing your career. “There are only so many X-level roles in one city,” he says. “Once you hit a certain level, getting the top job is harder.”

But don't take that to mean it makes sense for everyone to pack their bags for top-tier cities like New York or London. Athanas knows from experience that even “second cities” can offer payoffs.

But geography makes a big difference in compensation, so if a move includes a pay cut, it should be scrutinized.

“If you cannot afford to take the job, there had best be some very strong personal or long-term goals that will be aided by the move,” advises Athanas. “Going somewhere new and not being able to afford to go out is painful.”

In Jason's mind, relocating and non-relocating opportunities are equally valid, but he stresses that you need to treat your a move like a business case and weigh your decision.

“Like in a vendor selection, not all parts of the evaluation are equal. [It may be] plus one for nice climate, minus 10 for high taxes... and always give gut feel at least 10

points. If an area doesn't feel right, it probably isn't,” he says.

Have a Backup Plan

When negotiating a relocation, request a “change of control” clause, which covers you in case the company changes hands shortly after you start. It should offer a severance payout or otherwise describe what happens to you.

“If it doesn't work out, you need an escape plan. Do the math, do the math again, prepare change management and have an exit clause.”

A change-of-control consideration won't always be granted, but if you don't ask, you don't get. Don't worry about appearing negative to HR; everyone's worst-case scenario is moving for a job, then losing that job shortly thereafter.

Athanas likes to have a long-term plan for his moves, including making a list of next moves if the current one doesn't work out. “Making the list when you're not pressured makes it easier,” he says. “Oh, and on your LinkedIn profile, immediately type in ‘HAPPY TO MOVE.’”

Hiring managers still resistant to take the leap should remind themselves: Do you want the best person for the job or the best local person for the job? By trying to keep the cost-per-hire down, are you settling for mediocre talent?

Kristen Lamoreaux is president and CEO of Lamoreaux Search, which finds IT professionals for hiring managers.

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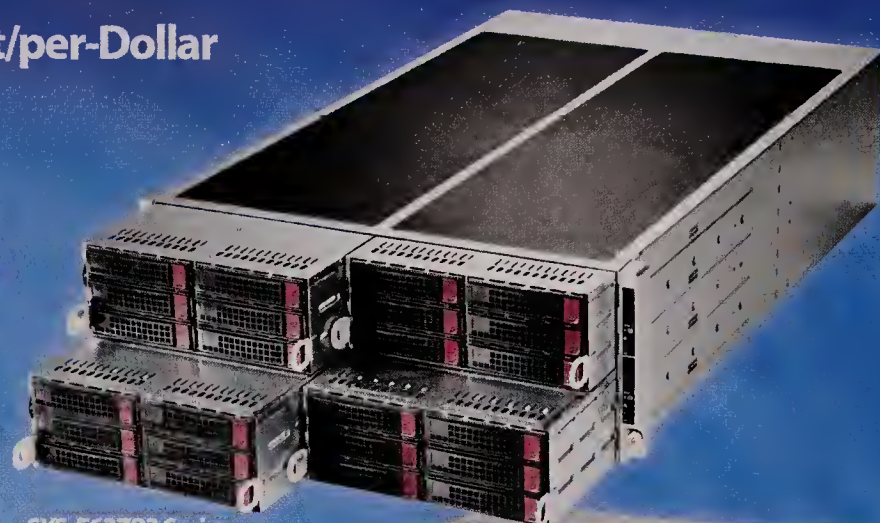
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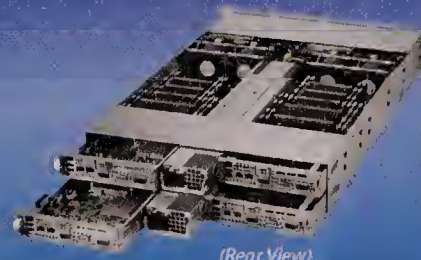
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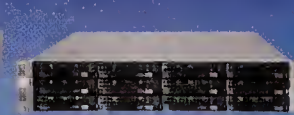
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(Rear View)



(Front View)

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Cloud Computing

The Autonomics behind the Economics

In recent years, cloud computing has moved from the fringe to the mainstream of enterprise IT practice. The adoption of this flexible, service-based approach to computing has been catalyzed in large part by the promise of improvements in IT efficiency and reductions in data center expenses. But, too often, CIOs and financial managers fail to understand the critical role application servers play in realizing cloud computing's economic and operational potential.

The dynamic, virtualized and highly utilized infrastructure which is characteristic of the best cloud environments requires a foundation of powerful, intelligent, cost-effective servers. Ideally, these servers will automate many once-manual IT operations,

and maximize uptime. From an economic perspective, intelligent automated servers can drastically cut administrative and maintenance costs; reduce energy usage by ensuring servers run as efficiently as possible; and minimize the potentially astronomical costs of downtime by addressing problems before they result in catastrophic failures.

These and other TCO-reduction benefits are ultimately much more impactful to corporate bottom lines than are the relatively simplistic return-on-investment (ROI) analyses that traditionally have served as the primary economic evaluation factor for application servers.

Next-gen servers reduce costs

HP designed its latest generation of rack and blade servers—the HP ProLiant Gen8

Ideally, these servers will automate many once-manual IT operations, leading to significant improvements in cloud computing TCO and performance.

driving significant improvements in total cost of ownership (TCO) and performance.

Intelligence and autonomics remove costs

Application servers that require laborious manual intervention for provisioning, health monitoring, firmware and software updating, and other routine tasks can seriously undermine the value of cloud computing. Whether the cloud environment is private, public, or a combination of the two, it can benefit not just from task automation but also from autonomics. “With autonomics, the server not only gathers information, but proactively does something with that information,” explains Tim Golden, resident chief technology officer for Hewlett-Packard’s (HP’s) Americas Industry Standard Server Business.

Whether it involves “phoning home” to service professionals to alert them to potential component failures, or automatically identifying and correcting multi-bit memory errors, proactive autonomics can greatly lessen cloud TCO, improve performance,

portfolio—in large part to address the needs of virtualized cloud computing and other high-demand IT environments. The HP ProLiant Gen8 servers deliver more than 150 new features compared to earlier-generation servers, including many that leverage the servers’ embedded intelligence, self-analysis, and proactive autonomics capabilities. Among the HP servers’ TCO-reducing, performance-enhancing features:

- An embedded Active Health System that continuously tracks, logs and time stamps 1,600 system parameters and offers phone-home capabilities to both prevent failures and speed recovery times

- Monitoring for and, when possible, automatically correcting multi-bit memory errors on the fly without interrupting service

- Proactive identification of failing drives and automatic creation of a hot spare

Thanks to these (and dozens more) automation and efficiency capabilities, “the HP ProLiant Gen8 servers can be critical in helping CIOs achieve the optimal economic—as well as operational—benefits possible with cloud computing,” says Golden. ■



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*For details on claim substantiations, visit hp.com/go/rackCIO

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HP ProLiant DL360p Gen8 servers and HP ProLiant DL380p Gen8 servers
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Karen Robinson, newly named CIO of the state of Texas, hopes to overhaul IT through outsourcing by using the services integrator model.



New Sheriff in Town

Texas state CIO wrangles outsourcers into an unusual deal

BY STEPHANIE OVERBY

Wanted: Experienced CIO to take over struggling IT organization with flailing outsourcing relationships, data centers in disarray and a disheartened internal staff.

As Governor Rick Perry's director of administration and technology, Karen Robinson was charged with finding candidates capable of meeting that challenge. But the only one the chief of staff trusted to take over the Department of Information Resources (DIR) was Robinson herself.

"It was not one of the positions where you say, 'Ooh ooh, take me!'" Robinson, now Texas State CIO and Executive Director of DIR, admits. But through her work with policy analysts and others to assess what went wrong during a public battle between IBM and Texas over their \$863 million data-center-consolidation contract, she knew as much as anyone could about how to fix IT outsourcing.

Robinson spoke to leaders of the agencies DIR serves, created an executive leadership committee to guide IT decision making, and launched an 18-month process of rebidding the IT work. "The DIR does so much more than data centers that outsourcing was the only way to go," says Robinson. "But

...**41** Number of apps on an average U.S. smartphone. Nielsen ...**70%** Companies planning to hire new college grads.

EMC Research ...**17%** Americans who used social media for customer service at least once in the past year. American Express



Your **Mobile** Website? **Not So Good**

CIOs know that their websites should be smartphone-friendly, but admit that the user experience is often mediocre

How would you rate the usability of your organization's website when viewed on a mobile device?



SOURCE: CUTTER CONSORTIUM SURVEY OF 60 I.T. LEADERS, MAY 2012

I feared no [vendors] would apply."

Even the ugliest outsourcing efforts often succed on the second attempt, but to be sure this one worked, Robinson embraced a different approach—the services integrator model. She signed a deal potentially worth more than \$1 billion earlier this year, whereby Xerox and its outsourcing division (formerly ACS) will take over five towers of IT service, subcontract some of the work to vendors, including Unisys and Cisco, and Capgemini will be the master service integrator.

It's an unproven tactic—one outsourcing provider managing its real-world competitors' end-to-end delivery. But Robinson felt the potential rewards were worth the risk. "The other model—IBM telling IBM what to do—wasn't working," she says. "This is going to offer more flexibility and visibility. We have Capgemini there to oversee what's working."

There is pent-up IT demand from customers underserved by the previous five years of outsourcing. But "with the new contract, we opened the door to new secure, sustainable and cost-effective technologies like cloud computing, so customers don't have to wait for servers to be delivered," Robinson says. "We can have something built in 20 minutes."

Successful outsourcing relationships take longer than that. Many have their eyes on Texas to see how this model works, particularly Robinson's public-sector CIO peers, who have struggled with IT services deals. "It could be a landmark deal or it could be a disaster because so much is unknown," says Esteban Herrera, COO of sourcing analyst firm HfS Research.

"I've gotten lots of 'Good lucks,'" says Robinson. "I expect some hiccups. But I'm tired of having unhappy customers."

The biggest benefit Robinson is looking for is increased transparency of IT delivery and improved service. She'll know the new deal is working, she says, when her phone finally stops ringing.

Stephanie Overby is a freelance writer based in Massachusetts.

"I expect some hiccups. But I'm tired of having unhappy customers."

—Karen Robinson,
CIO, State of Texas

Shift Dollars to Innovation

CIOs such as Accenture's Frank Modruson are working to deliver innovations even as they seek to cut or hold down spending.

Speaking at the recent MIT Sloan CIO Symposium in Cambridge, Mass., Modruson said Accenture sorts its IT spending into two buckets, one for operating expenses and another for investments in IT. Each year, he urges his team to find ways to lower operating costs—such as cutting the cost of email—and move that money over to investments.

But the company isn't afraid to spend big if necessary. Accenture "blew up its whole network" in 2007, consolidating and modernizing the system. While the job cost \$100 million, it paid for itself in just a few years, Modruson said. The network improvements enabled other innovations, such as the use of desktop video for employee communications.

"Nothing really important happens in email," Modruson said. "We've actually moved a lot more to video to get that [personal] interaction."

"Desktop video has gotten pretty cheap," he added. "It costs us less than a penny a minute. It's next to free. It's going to show up everywhere."

—Chris Kanaracus

Pekka Viljakainen
Co-author of
*No Fear: Business
Leadership in the
Age of Digital Cowboys*



Leading the Digital Cowboys

Young employees are gadget-savvy and global-minded, so they require a new leadership style **BY KIM S. NASH**

Former management consultant Pekka Viljakainen argues in his latest book, No Fear: Business Leadership in the Age of Digital Cowboys, co-written with IT consultant Mark Mueller-Eberstein, that today's senior executives don't know how to lead up-and-comers.

What is a digital cowboy?

A younger professional with a more international and social outlook than the supervisor, but who's a rookie at leadership. They use technology to learn and to spread ideas. They don't think about globalization; they assume it.

Social technology is second nature to them.

There has been a lot of fuss about social media changing business processes. But the key thing for top executives all the way to CEO is to find a way of leading socially instead of being top-down leaders. Most innovations happen at the very front line, where people see clients. CIOs should develop tools for executives to sense what is going on there. Doing this, CIOs can influence what is happening at the company.

What can CIOs do better in working with digital cowboys?

CIOs need the best talent, not just for running IT but for making the future of IT. You cannot lead anybody if they don't want to follow you. This generation will follow if you are educating them, adding value to them, making them better, making them win. The role of the leader is changing to be more like a coach. You have to be interested in developing people.

What can we learn from what's happening in Russia and China?

The talent pool as a whole is much more digitally oriented. The penetration of iPads and smartphones in Moscow is much higher than in London. There was a 4G network there three years ago. It was science fiction in New York at that time. In China, they're

investing massively in technology. You should never think of these countries as developing. And companies can't avoid cooperation with these countries. Although we'll see much more diversity on our staff in terms of culture, technology unifies the different parts of the world. A few years ago, smartphones were all different all over the world in how you used it, how you charged it, how you contracted for services. Now, it's more similar. iPads are used in the same way all over the world. Technology spreads a baseline way of working.

Think about
where the
future business
growth is: It's
in emerging
countries
driven by digital
cowboys.

How can CIOs become global talent scouts?

Come out of the cozy headquarters office and go abroad. Think about where the future business growth is: It's in emerging countries driven by digital cowboys.

You should not send out a team from your department to tell these people how to think. Go and collaborate with them. Five years ago, when I collected a team of two Russians, two Americans, two Indians and two Finnish guys for a project, it was a hassle. We had different ways of working. Now, if I were to take 10 people, they'd think in much the same way about work and be extremely global-minded. If [your] leadership is not changing in these ways, you will misuse their talents.

Contact Senior Editor Kim S. Nash at knosh@cio.com. Read her blog, Strategic CIO, at blogs.cio.com/blog/strategic-cio.

VIEWPOINT



Hany Kaiser

OPERATING VICE PRESIDENT
OF TECHNOLOGY, HSN DIGITAL

Hany Kaiser is Operating Vice President of Technology for HSN Digital, the multichannel retailer's e-commerce, mobile and social media platforms. Kaiser, a technology leader with more than 16 years experience, oversees systems and application engineering, digital media services and quality assurance, across all digital platforms for the multichannel retailer.

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Highly available, scalable data platform keeps HSN Digital customers coming back

For the digital arm of multichannel retailer HSN, high availability isn't just nice to have, it's a must. Hany Kaiser explains how the retailer derives business value from having the right data management platform.

Why are scalability and high availability so important to HSN Digital's business?

A few years ago, when browsing the web, you could come across a "site down for maintenance" page; it was somehow acceptable back then. Now, consumer behavior in the digital space is changing. People have much higher expectations from an availability standpoint; they almost take it for granted that a site will be up. So if your site isn't responding, they will simply move on. But it's not only about the loss of sales opportunities, it's about providing a seamless shopping experience across all of our digital platforms and being available to consumers whenever and however they want to shop. The nature of our business is very dynamic and although we usually try, it is hard to predict the level of traffic and/or velocity of transactions that we need to deal with and support on the backend. I look at availability and scalability as one integral requirement that cannot be divided.

What data management challenges led you to look at Microsoft SQL Server 2012?

Availability, although I would not call this a challenge per se, but it is an area where we are always thinking "How can we take it to the next level?" and increase availability levels as online consumer habits continue to evolve. The availability of our ecommerce transaction database platform directly drives the availability of their digital business across HSN.com, the mobile site and HSN on Demand®.

What features of Microsoft SQL Server 2012 stood out most to you?

The way Microsoft re-introduced the concept

of database mirroring with SQL Server 2012 AlwaysOn has redefined the landscape of database availability and brought new dimensions that did not exist before. Database failover in the new mirrored environment powered by SQL Server 2012 is much more forgiving compared to traditional cluster failover. We are used to maintaining an average of 40 seconds failover time for our ecommerce transactional database cluster, whether it is a proactive failover to conduct planned maintenance activities or triggered by an unforeseen event. While this has been a tremendously fast failover time compared to industry averages given our size of traffic, with Microsoft SQL Server 2012 AlwaysOn, initial testing has shown that we can improve our recovery time even further to less than 10 seconds across all of our digital platforms.

How has the implementation of Microsoft SQL Server 2012 gone so far?

The initial phase was successfully completed earlier this year, with SQL Server 2012 powering the website forums and an internal business-to-business application used daily by all of our suppliers as the main communication channel between HSN and its business partners. We started with a database mirror of two nodes, with the goal of further extending the platform to replace our existing replication infrastructure with AlwaysOn availability groups. We plan to migrate our ecommerce transaction databases across all of our digital platforms to SQL Server 2012 later this year.

How will Microsoft SQL Server 2012 support your future growth?

By migrating to SQL Server 2012 and adopting some of the new features around database mirroring, we are inherently very well positioned to scale horizontally when we need to. I love the idea that we can scale horizontally by simply adding a new node to the mirror. ■

Take the Time to be Strategic

Write a blog? Keep a 'beer list'? CIOs share unusual tricks for carving out space to think about competitive advantage. **BY MADELINE WEISS AND JUNE DREWRY**

Your day is already jam-packed and long. Yet every pundit says you need to be more strategic. How do you find the time to think strategically about positioning your business to gain and sustain competitive advantage?

At a recent meeting of the Society for Information Management's Advanced Practices Council (APC), successful CIOs shared their techniques for carving out time to think strategically.

Make it a habit.

Two APC members book time on their calendars—one for after business hours and the other for before business hours—for strategic thinking. Another makes sure he works offsite at least one day per week to avoid getting brought into tactical issues. One member uses his time in a scheduled spinning class to ask himself strategic questions such as, "What did I miss?"

Meet with colleagues.

Many CIOs sponsor IT summits to encourage strategic thinking among IT managers and, in some cases, all IT staff. Adrian Gardner, CIO of NASA's Goddard Space Flight Center, seeks out ideas from strategic thinkers and makes sure to include staff with less than two years of tenure in IT strategy sessions.

Steve Heilenman, CIO at Computer Aid, holds a weekly Innovation Friday event, where he invites a rotating cadre of "crazy thinkers and doers." Several APC members hold future workshops for a mix of people representing management and staff at varying levels, making sure to invite those who've had good ideas in the past as well as some who haven't participated before.

One CIO tells his direct reports that they must balance three types of work: manage today, deliver tomorrow, and innovate for tomorrow. Since the team naturally gravitates to the first two categories, he often reminds them of their responsibilities in the third.

Of course, technology can be used to engage colleagues,

too. One APC member identifies the top five strategic priorities and blogs about them, with the whole IT organization as an audience. This approach generates a great deal of participation and gets the entire department engaged.

Other techniques: Schedule three meetings a week with colleagues outside IT to learn what they're thinking. Take business leaders out to dinner regularly to get their ideas and learn their pain points. And keep a "beer list"—ideas for the future that are explored at the bar.

Enlist a wide network of insiders and outsiders—even 'crazy thinkers'—to get fresh insights and to challenge your thinking.

Seek outside perspectives.

Attend association meetings with great speakers, establish networks of CIO peers, and cultivate relationships with what one CIO calls "deep-thinker organizations." Although think tanks and universities fit this category, several APC members emphasize the value of connecting with venture-capital firms, too.

Simon Gauthier, CIO of the Inter-American Development Bank, engages a Georgetown University professor as the facilitator of his quarterly strategy meetings to ensure he gets outside perspectives. And the professor brings along a student, because students "believe everything is possible."

Other techniques for gaining new perspectives include regular visits to external customers and serving on local nonprofit boards.

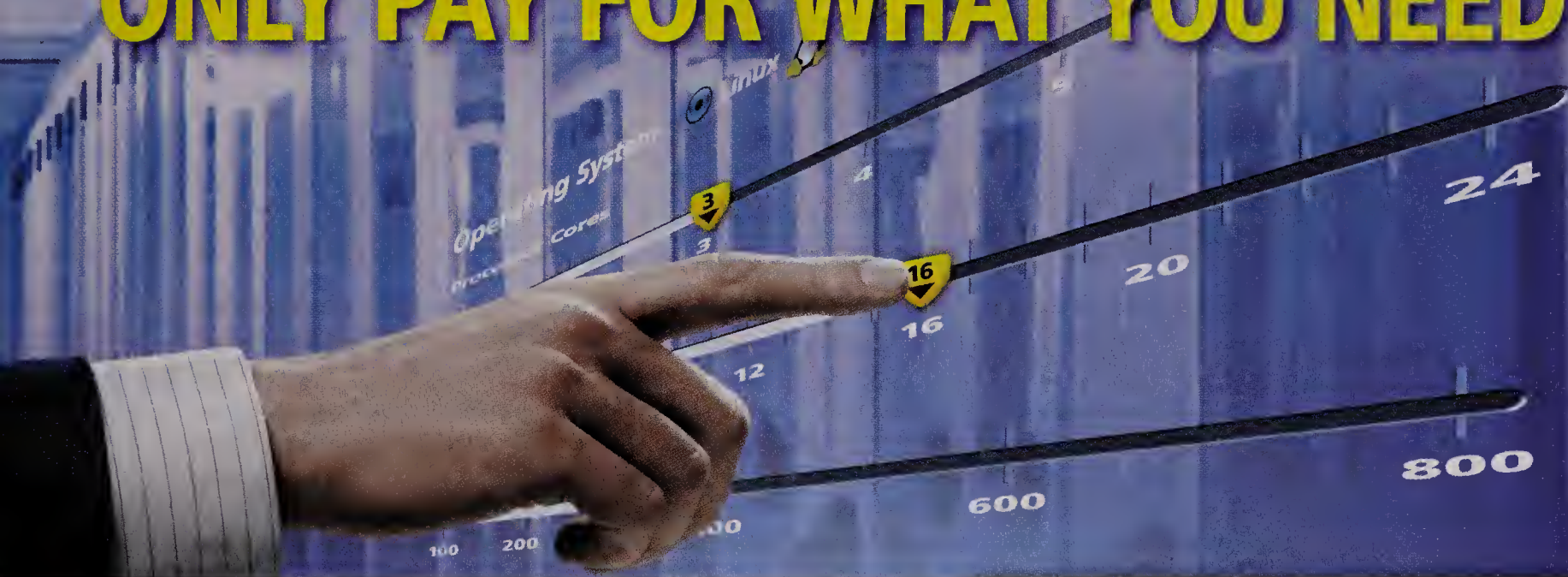
Putting it all together.

First, adopt the practices that fit your personality and lifestyle. If thinking alone doesn't work for your extroverted personality, don't fight it. Second, you can't possibly have all the strategic answers. Enlist a wide network of insiders and outsiders to provide fresh insights—and to challenge your thinking. Third, find ways to push yourself out of your comfort zone.

Madeline Weiss is director of the Society for Information Management's Advanced Practices Council (APC). June Drewry is former CIO of Chubb and a contributing adviser to the APC.

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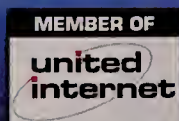


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Mapping Mobile Apps

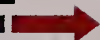
Five tips for better business process management
in an era of social computing **BY KIM S. NASH**

As mobile devices and social media put down ever deeper roots in IT, businesses are seeing big changes in how employees do their jobs and how customers interact with them, in addition to—ideally—using the technologies to find new revenue streams.

But problems crop up when companies fail to adapt old business processes to these new ways of conducting business. Business process management (BPM) isn't a write-once, use-forever task, and CIOs should work continuously with non-IT colleagues to improve and update value-creating processes, says management consultant Andrew Spanyi. "The M is always missing in 'BPM,'" he says. Here, Spanyi and other BPM experts give advice on re-framing BPM projects for today's technology environment:

1 LOOK OUTSIDE THE I.T. DEPARTMENT. IT must understand existing business processes. How do products and services flow out? How does money come in? Reading a manual ►►



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►► **BPM** Continued from Page 22

isn't good enough, says Bob Scott, SVP and leader of BPM Global Service Line at Capgemini. "People have relationships with other people and have different information sources that they didn't have when the process was [first] created." Ask people to help you draw out how it really works.

2 GO BIG. Most BPM work occurs on a small scale, in departments, and is done by business analysts. The most effective BPM work, however, happens at a companywide level, led by CIOs and peer executives together, Spanyoli says.

3 SEIZE THE DAY. As companies create mobile applications for employees and customers, the IT group should grab the chance to suggest ways to streamline the business process at hand, says Bern Elliott, an analyst at Gartner. For example, if an app lets sales staff place orders using iPads as they sit with customers, perhaps the company can change the fulfillment process to show inventory and estimated delivery dates in real time. Rearranging those processes gives customers information they used to have to wait for or sometimes didn't get at all, Elliott says. That's a better customer experience.

4 BEWARE OF SOCIAL MEDIA. Talking with customers on social networks adds a new and complicated web of interactions outside traditional processes. IT must account for that information, feeding it to internal systems when it will be useful, Scott says. To figure out how, CIOs should try to conduct business with their own companies through these channels. "Understand what the experience is like for the customer," he says, and you'll know where existing business processes are breaking down.

5 FIND THE FUNDING. IT might face stony faces in the finance department when trying to get BPM projects approved. When other projects vying for cash promise to bring in new revenue or reach more customers, making the case is tough. Try to estimate the value of soft benefits, says Nicholas Kitson, Capgemini's head of BPM for the financial services industry. They include increased customer satisfaction and more efficient employees who need less training.

Contact Senior Editor Kim S. Nash at knash@cio.com. Read her blog, Strategic CIO, at blogs.cio.com/blog/strategic-cio.

When Web Apps Are Best

BY TOM KANESHIGE

The American National Insurance Company (ANICO) had 50,000 independent agents and 1,200 on-staff agents selling services in the field and wanted an app that could bring customer information to their mobile devices. Feature-rich native apps for all the major platforms would be too costly to develop, so the small IT staff hit upon a more realistic option: a mobile Web app.

What They Did: With the help of IBM software and solutions provider Streebo, ANICO developed a basic app that field agents could access via a Web browser on practically any mobile device. The app's single function is to serve up customer information sized for different mobile screens, such as the iPhone and iPad.

It took only eight weeks to develop.

"We don't have the resources to develop native apps; [they're] a lot harder to maintain," says Deanna Walton, assistant vice president responsible for field systems at ANICO. She adds, "a mobile Web app is more attractive because you don't have those security concerns."

The app launched in early February with little fanfare. The idea was to roll it out gradually. On the first day, 100 agents signed up. At the next agent conference, agents asked for more functions. Since then, use of the app has doubled.

What's Next: Walton and her team are now working on adding more tools to the app—for example, access to rate sheets, quotes and pending case-status information. But agents probably won't be able to sync calendars and contacts or use the camera within the app because mobile Web apps tend not to play well with a mobile device's native resources.

But Walton contends that the mobile Web app approach arms ANICO with information for future mobile app strategy and development. That lesson may pay off soon, because often once the sales staff gets a taste of bring-your-own-device empowerment, they want more functionality quickly.

ANICO is already better prepared to provide those capabilities. Before the Web app, the company didn't know which devices independent field agents used. Now logs and metrics from the mobile site have made it clear that iPhones are the most popular, followed by Android devices and iPads.

Knowing what devices are used most means Walton can direct her limited development resources to those platforms. She can also get a feel for what the fallout may be if she doesn't invest in development for other platforms.

"Down the road, I can see us writing a hybrid or native app," she says. "We can leverage the code we have today."

Contact Senior Online Writer Tom Kaneshige at tkaneshige@cio.com.

VIEWPOINT



Bruce Dahlgren

SENIOR VICE PRESIDENT
OF MANAGED SERVICES,
PRINTING AND PERSONAL
SYSTEMS GROUP, HP

Under Dahlgren's leadership, HP has grown to become the recognized industry leader in Managed Print Services (MPS). Dahlgren and his team lead the printing group's global enterprise business strategy and are focused on driving a comprehensive managed services capability across the entire printing and personal systems portfolio. He holds a bachelor's degree and a Master of Business Administration from Stetson University, and is a graduate of the Wharton Executive Education Program.

FOR MORE INFORMATION

Download an HP white paper at:
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Managed Print Services

Uncover new opportunities to drive business growth

How does Managed Print Services (MPS) specifically address today's top business and IT challenges from the CIO's perspective?

While the market conditions continue to be intense, the needs of business have evolved. It's not just "take cost out and get through the storm"; it's really "take cost out and find ways to reinvest to grow and be more productive." MPS is designed to help businesses achieve these goals.

Companies can save up to 30 percent in imaging and printing costs through MPS—savings which can be reinvested in other areas. And MPS helps speed up the business by making employees more productive. It also helps companies to provide better customer service. And the more efficient you are at addressing customer needs, the more apt they are to come back.

Mobile printing is a great example of the benefits of MPS. Workers need to be productive whether in the office, at home or traveling. I can't tell you how many times I have been on the road and needed to print for a meeting. The ability to print from my mobile device to a network printer or a public print location, like FedEx Office or The UPS Store, has helped me close deals.

Understanding when print is critical and when digital can take the lead is important because all businesses have a blended model. In fact, in the enterprise environment the great majority of processes are still paper-based. MPS provides visibility and a clear understanding of your most critical processes so you can make informed decisions that drive increased productivity.

What should enterprise customers look for in an MPS partner?

A proven MPS partner is crucial. HP has been recognized by customers and top industry analysts for not only our portfolio but also our leadership and completeness of vision. System integration capabilities

and experts that are specific to your field are important as well.

Automated processes are another key asset to look for. Enhanced management tools like HP's Smart Decision Suite allow you to analyze, report, and predict the needs of your devices, drastically reducing the need for onsite labor-based intervention. Managing devices proactively reduces labor costs so you can resolve the simplest issues without downtime. IT doesn't manage PCs by sending a technician every time a worker has an issue—they leverage the network. Printers should be managed the same.

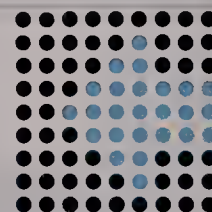
As MPS evolves, debates around whether the focus should be on print, the document, or workflow have also emerged. I would suggest that it's all of the above and more. Information is the lifeblood of the enterprise. This includes paper, digital documents, audio/video files, web pages, email, SMS and more.

Businesses need to be able to capture, connect and communicate information—independent of source, type, channel or location—and build more productive and profitable relationships with employees, partners and customers. An MPS partner can help you manage information and relationships.

How can an IT leader get started with an MPS initiative?

To start with, you need to select a proven partner with a complete portfolio, service expertise, and proven processes—such as HP. With us, the next step is to sit down and understand your business goals. Using HP Smart Decision Suite we then capture the most accurate snapshot of your current environment and assess opportunities for improvement. Working together, we design the ideal blueprint and deploy the right solutions. It's that easy.

Finally, don't delay. There are real savings and proven productivity gains with HP MPS. ■



Branching Out

Cisco, known mostly as a networking company, moves aggressively into unified computing for data centers **BY STEPHEN LAWSON**

THE PITCH

Since its introduction in 2009, Cisco Systems' Unified Computing System (UCS) has become the driving force behind the company's data-center strategy and, by some measures, has grabbed third place in the worldwide blade-server market. That's a remarkable record for the first foray into computing by a company that's synonymous with networking.

UCS combines servers, virtualization, networking and management software into a single package. Cisco now claims 11,000 customers and \$1.3 billion in annual revenue for UCS, but it's not standing still. In March, along with introducing a new generation of blades based on Intel's Xeon E5-2600 processors, the company expanded its lineup of rack-mounted servers and doubled the switching capacity of the fabric interconnect that links UCS servers. In the second half of the year, Cisco plans to make its UCS Manager software control multiple UCS domains—up to tens of thousands of servers in an organization.

THE CATCH

Though UCS has grabbed about 14 percent of global blade-server sales, most servers are larger rack-mounted units, so Cisco only has about 4 percent of the whole market, according to Gartner analyst Andrew Butler. On the other end, blades are starting to get squeezed by the popularity of "skinless" servers, which are simpler and less expensive than a blade, and which Cisco doesn't yet make.

Moreover, in many IT shops, established players such as Hewlett-Packard and IBM are too deeply entrenched for Cisco to break in, Butler says. "Unless something bizarre happens, Cisco's future growth does start to become constrained," he says.

The company's server strategy is aimed at making the whole of its architecture more valuable than its

pieces. This helps the company set itself apart and avoid competing with commodity products based on price, says David Yen, senior vice president and general manager of the company's data center group. Skinless servers are on Cisco's road map, but only in the long term. As for rack-mounted systems, Cisco wants to make them as economical and easy to manage as blade servers, Yen says.

THE SCORE

As Cisco moves into the data center, it's going down a different path from some of the bellwethers of large-scale computing. UCS servers are designed to fit into modules that can be combined to form a very large data center. Through fabric interconnects and overarching management software, Cisco can make those modules man-

THE COMPANY

Cisco Systems

Headquarters: San Jose, Calif.

Employees: 63,870

2011 Revenue: \$43.2 billion

CEO: John Chambers

What They Do: Cisco is the largest vendor of networking equipment for enterprises and service providers. It has also branched out into other areas, including servers, video and collaboration.

ageable with a single set of policies, Yen says. Cisco's approach is different from that used by public-cloud giants such as Google and Amazon, which expand a single-layer architecture to a massive scale. But for most enterprises, Cisco's approach is better for manageability and incremental growth, Yen says.

Cisco's aggressive approach to the market helped to sell one CIO on UCS as a long-term bet. "They pointed at the big guys and said, 'We're coming at you,'" says George Reed, CIO at travel insurance company Seven Corners. UCS blades replaced a data center full of desktop servers at Seven Corners, where they've helped the company calculate the risk of new types of insurance policies more quickly, Reed says. And he says Cisco's support is either better or cheaper than support from the other big server makers.

Stephen Lawson is a senior U.S. correspondent with IDG News Service.

VIEWPOINT

**Danny Wirtz**

SENIOR VICE PRESIDENT,
WIRTZ BEVERAGE GROUP

Danny oversees the company's core functions of commercial strategy, IT, operations, training and human resources. He also plays a leading role in Wirtz Beverage Group's supplier relations and strategic initiatives to foster growth and innovation. Additionally, he offers insight and coordination of business strategies to the Wirtz Corporation family of companies.

**Glen Hoch**

VICE PRESIDENT OF BUSINESS
DEVELOPMENT, WIRTZ BEVERAGE GROUP

Glen most recently served as Interim CIO during Wirtz Beverage Group's CIO search. He has been ERP project lead for the corporation. Over Glen's 19-year career with Wirtz Beverage Group, he has filled high-level positions in sales, trade development, finance, strategy and IT. His role will soon shift to focus on the company's expansion efforts.

FOR MORE INFORMATION:

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WIRTZ BEVERAGE GROUP



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Wirtz Beverage: Drinking in ERP Success

Wirtz Beverage Group executives Danny Wirtz and Glen Hoch explain how Microsoft Dynamics' integrated, seamless environment eases the burden in the highly-regulated world of alcohol beverage distribution.

Tell us about Wirtz and how industry changes have affected growth.

Wirtz: We first got into the alcohol beverage distribution business in the 1940s when there were a lot of small family distributorships. Over the past few years, the industry has consolidated. All of our companies had been named differently, but are now assembled under the Wirtz Beverage banner. Between 2007 and 2012, we nearly doubled our business to around \$2 billion and today we move more than 40,000 unique products to more than 45,000 customers each year. Ranked sixth in the industry, we work with some of the largest wine and spirit suppliers in the world.

How does consolidation complicate alcohol beverage distribution?

Hoch: There are a lot of regulations in this industry. First and foremost, we cannot cross state lines with alcohol so all inventory must be held in state. This alone adds a layer of technology and distribution logistics. Also, no two states' regulations are alike, yet as a wholesaler we must comply with all of them.

How does the Microsoft Dynamics platform relieve some of this pressure?

Wirtz: We used to be highly decentralized with each business running its own legacy system. Even if two companies had the same platform, they would customize it differently.

Hoch: Now we've converted five companies operating in five states — Illinois, Iowa, Minnesota, Nevada and Wisconsin — with five unique product masters into one Microsoft Dynamics AX implementation for consistent data collection, tracking and reporting.

On the finance side, we've automated our pricing, our charge-back system with

suppliers, and other key processes that ultimately make us more efficient and put more to the bottom line. With all companies on the same chart of accounts, we have real-time visibility of gross profit on all of our transactions.

Are there other factors that led you to Microsoft Dynamics AX?

Hoch: Our sales representatives go into the field and gather orders from 7:00 a.m. until 5:00 p.m. and delivery on those orders starts early the next day. The ordering, pricing, warehouse and delivery logistics must work seamlessly. For instance, some products have mandatory cash-on-delivery rules. We cannot drop off a product if they do not pay so the system has to be up to date and accessible with that information. We've integrated our pricing module, purchasing system and warehouse management application into Microsoft Dynamics AX. This hub-and-spoke model, where all data flows through Microsoft Dynamics AX, provides an aggregated view.

What's next?

Wirtz: We are developing a clean and standardized set of data, including more than 50 product attributes, to feed into business intelligence tools. The first 30 to 60 days after a new product launch are critical. With Microsoft Dynamics and the business intelligence it provides, we'll get hourly updates on how brands are performing so we can quickly adjust orders. Our three-year vision is to catapult the company to the forefront of the beverage distribution business. We never could have entertained this idea with our legacy systems. But with Microsoft Dynamics AX as the foundation, we are ready to innovate, develop new competitive advantages and support new partnerships through integration. We also plan to implement Microsoft Dynamics AX across our parent organization, Wirtz Corp., including banking, real estate and insurance. ■

LEGAL AFFAIRS

Personal Devices Get Political

Bring-your-own-device programs require clear policies that spell out what happens to personal data **BY TOM KANESHIGE AND MITCH BETTS**

What happens if the IT staff needs to get some corporate data from an employee's personal iPad and stumbles across child pornography elsewhere on the device?

Did the IT team have permission to conduct e-discovery on personal data? Is the team obligated to call law enforcement? Would the finding be admissible in court? Were the employee's privacy rights violated? Was the company's bring-your-own-device (BYOD) policy clear about which parts of the device could be searched?

Welcome to the foggy world of BYOD, where the blending of personal and work lives on a single device opens up a host of legal issues. "It's a slippery slope" that lacks clear legal guidelines, says Ben Tomhave, principal consultant at LockPath, a vendor of governance, risk and compliance software. He's also incoming co-chairman of the American Bar Association's information security committee.

Tomhave offers another scenario: Suppose the employee is terminated and the company remotely wipes his iPad, which deletes personal data. Is the company cul-

pable? "You've got to make sure policies and legal agreements clearly articulate the expectation," Tomhave says.

Brian Jackson, an attorney at Fisher and Phillips, a law firm that represents employers, says the BYOD policy needs to be clear about who owns the device and what information the company can search, view and wipe.

For example, the policy could require employees to back up personal data (such as on a home PC or cloud storage) and then explicitly state that the company will wipe those areas clean if the device is lost or stolen.

If a BYOD dispute goes to court, the company should be able to show that the "employee walked in with eyes wide open," Jackson says, so the employee can't say, "I had no idea they'd erase my baby pictures."

Companies also need a policy for disciplining employees who don't comply with BYOD rules, Jackson says. The discipline might range from ending the employee's participation in the BYOD program to termination.

Tom Kaneshige is a senior writer for CIO.com. Mitch Betts is executive editor of CIO magazine.

Boards Are 'Clueless' About Cybersecurity

For many boards of directors in critical industries, cybersecurity is less than an afterthought. It's barely even a thought.

That's a key finding of "Governance of Enterprise Security: CyLab 2012 Report," a global study by Carnegie Mellon CyLab and security vendor RSA. The survey of 108 corporate board members and senior executives found that 71 percent of the boards rarely or never review privacy and security budgets, 79 percent rarely or never review secu-

rity roles and responsibilities, and 64 percent rarely or never review top-level security policies.

Boards of directors are essentially "clueless" about cybersecurity, even in industries such as energy and utilities that manage critical infrastructure, says Jody Westby, CEO of Global Cyber Risk and the author of the CyLab report.

"When asked whether their organizations were undertaking six best practices for cyber-governance, the energy/utilities sector ranked last for four of the practices and next to last for the other two," Westby wrote in a blog post.

"What is disturbing about these findings is that the energy/utilities sector is one of the most regulated

industry sectors and one of the most important to business continuity," Westby says.

The consequences of a data breach include shareholder lawsuits for failure to protect the assets and government sanctions for compliance failures.

One expert blames IT security chiefs for failing to communicate the risks. "CEOs and boards are business people. Too frequently, infosec professionals speak in terms of threats or vulnerabilities or technology. They need to learn to speak in terms that business leaders understand, and the one thing they understand is risk," says Mark Baldwin, principal researcher at InfosecStuff.

—Taylor Armerding

Mining the Call Center's Gold

Corporate contact centers are an ideal place to deploy big data analytics to gauge customer sentiment **BY STEPHANIE OVERBY**

There may be no corporate function that produces more data than the corporate call center. "Every contact is counted, routed, measured and scored. Agent performance is actively measured," says Tony Filippone, analyst at HfS Research. "Other key process owners, like finance and accounting, wish their data was as rich."

In the past, much of the analysis of the data gathered from the contact center has been quantitative—calls received, average hold time, call length, resolution rate. "Over time, companies added more sophisticated workforce-management tools...but the data collected was agent performance- and efficiency-related," says John Magliocca, a consultant at Information Services Group.

Digging Deeper

That's beginning to change. Corporate call centers are embracing new analytic tools to dig deeper into the big data they generate.

There are a number of business factors driving the change, says Filippone. Contact center agents are being asked to handle a wider breadth of issues from more channels, including social media and online forums. "This requires more advanced skills, better training, and great real-time guidance," Filippone says.

At the same time, companies disappointed with the quality of off-shored call centers are looking for new ways to cut costs.

Some of the most interesting software being implemented today attempts to take unstructured voice

recordings and analyze them for content and sentiment.

"There have been efforts underway to put contact data to work to best understand the current mood of the customer and other information that can immediately mold client strategy and direction [for some time]," says Magliocca. "But until recently, the systems were not robust and the information wasn't useful." These tools could enable the call-center professional to understand what's really bugging his next contact before he even says hello.

These tools could enable the call-center professional to understand what's really bugging his next contact before he even says hello.

"Companies are applying text and sentiment analysis to this unstructured data, and looking for patterns and trends," says Deepak Advani, vice president of predictive analytics at IBM, which has implemented its Text Analysis and Knowledge Mining tool at its own call centers. The software analyzes agent records, identifies customer concerns, highlights trends and patterns, and has early-warning capabilities.

"Many companies are integrating this call-center data with their transactional data warehouse to reduce customer churn, and drive upsell and cross-sell [activity]," Advani says. "Call center logs can provide invaluable insight on what customers were calling about, and can also provide insights for future product requirements."

Most contact center operators—traditional vendors like TeleTech, Teleperformance and Aegis, as well as newer cloud-based providers like RightNow and Kana—are adding call-center analytics that combine real-time and historical data to isolate revenue-related calls, identify agent best practices and predict root causes of customer dissatisfaction, says Magliocca.

Machine learning (a form of artificial intelligence) also has the potential to revolutionize the call center in the years to come. Everyone who's

ever called a help line has a horror story of being stuck in some seventh level of interactive voice response (IVR) hell.

"Being able to respond to customer requests in an automated manner, but without disagreeable and confusing IVRs, could be a huge boon for companies," says Filippone. "Products like IBM's Watson could one day replace traditional, linear-thinking IVRs."

ISG's Magliocca is also keeping an eye on e-learning systems that could proactively determine a call-center employee's biggest professional difficulties by analyzing her responses to customer inquiries and then suggesting appropriate training.

Stephanie Overby is a freelance writer based in Massachusetts.

In Search of

SIMPLICITY

Our tangled mess of technology hurts business agility and the bottom line.

It's time for a war on complexity.

BY KIM S. NASH

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No company sets out

to create convoluted processes supported—sometimes thwarted—by layers of overly complicated technology. But too often, that's what we face. Applications that require days of training but still generate streams of calls to the help desk. Databases and tools too old for vendors to support, but too vital for CIOs to shut down. Data centers choked with servers and wiring, connected to more just like it.

You know why it happens: Old technology builds up as departments move to the next new thing. Mergers and acquisitions bring someone else's IT to your doorstep, adding layers to your layers. Shadow IT runs parallel to sanctioned IT. CIOs fail to set or enforce standards. And all along, consolidation and integration projects that cost money lose the struggle for funding to customer-facing projects that promise to make money.

You also know this is no good. Such baggage takes money and time to maintain, says Frank Wander, founder of the IT Excellence Institute and former CIO of Guardian Life Insurance. "The costs to keep complexity running crowd out investment dollars," Wander says. "That affects agility." A grim cycle.

Simplicity, on the other hand, promises clarity, speed and flexibility, not to mention lower costs in IT and other areas of the company, says Kevin Humphries, senior vice president of IT at FedEx. Humphries opened a brand-new data center that will be the \$39 billion company's main technology facility. Simplification underpins the entire project, including virtualizing servers, shrinking the number of applications and re-thinking the cooling systems, Humphries says. It was engineered to be one-third the size of the one it will replace. "The largest theme we're working on in IT right now is complexity reduction."

At McDonald's, software undergoes CIO David Weick's simplicity test: If he can, with no training, sit down and make it do what it's supposed to do, then it is good software.

So important is simplicity to General Electric that CIO Charlene Begley has made it one of four strategic imperatives for IT. She knows how insidious complexity can be, even in the most disciplined organization. In her 24 years at the giant conglomerate, Begley has been CEO of four of its six current divisions, including the \$8.6 billion Home and Business Solutions unit, which she runs today. Former GE chairman and CEO Jack Welch famously urged his leaders to clean out their attics occa-

A full-page photograph of Kevin Humphries, SVP of IT at FedEx. He is a middle-aged man with short brown hair, smiling at the camera. He is wearing a dark suit jacket, a white dress shirt, and a light blue patterned tie. His hands are in his pockets. The background is a lush green forest with sunlight filtering through the trees, creating a bokeh effect.

Kevin Humphries, SVP of IT at FedEx, says "complexity reduction" was a key goal for a new data center that is one-third the size of the one it will replace.

sionally. It's that time again. Begley wants to reduce the number of GE data centers by half and the number of ERP systems by 85 percent by 2016.

"Simplification is now prioritized. It's funded. It's not scoped down," she says.

But it is difficult to achieve at GE, FedEx, McDonald's or anywhere else. Together, CIOs and business leaders must figure out what needs to go, what needs to change and how to finance and staff the project. Then they must develop plans to stop complexity from snaking its way back in.

It's an ongoing battle, but one that could be worth millions to win.

'Killing Complexity'

Complexity is slow, expensive and not secure. If systems are difficult to use, employees get flummoxed, wasting work time searching for functions or waiting for help. Multiply that lost time by thousands of employees, and entire companies slow down. When a new business opportunity or a chance to beat a competitor comes along, you can't move fast enough or don't have the funds to invest. (See "Simplify My Life," below.)

J.C. Penney's new COO Michael Kramer complained to Wall

Street recently that he discovered the company runs 492 applications, 88 percent of which are custom. He thinks it should be running about 100 apps, total. "It's a mess," he said. The troubled retailer, which lost \$152 million last year on sales of \$17 billion, plans to simplify IT as part of a massive transformation project. "When you want to make a change in the business, it takes a lot of un-layering and putting back on," Kramer said. "That costs money."

According to The Hackett Group, typical companies run more than twice as many data centers as world-class companies, which Hackett defines as those with IT groups in the top 25 percent for both efficiency and effectiveness. Typical companies also run an average of 39 applications for every 1,000 end users, compared to just 20 at high-performing companies. As a result, the best-run IT groups deliver services 15 percent more cheaply than typical companies.

"Less complexity has material benefits to the business, not just a positive effect on IT spending," says Rich Pople, global IT practice leader at The Hackett Group.

For example, vigilantly guarding against complexity paid off for some high performers when the recession hit in 2009, Pople says. During that dark time, typical companies cut IT costs by

'Simplify My Life'

Workers demand 'Apple-simple' technology from CIOs, who in turn want vendors' help with streamlining



The consumerization

of IT pressures CIOs to make office tools as easy to use as personal technology. Some CIOs strive for new systems that are "Apple-simple," meaning the interface is so simple that no formal training is required. Just pinch or tap, swipe and go.

Employees expect an immaculate user experience, but they don't necessarily grasp that building secure—and pretty—mobile access to the ERP suite may be a tad more difficult than creating an app that lets iPhone users pop virtual bubble wrap. "Those are challenging discussions sometimes," says Dan Priest, CIO of Toyota Financial Services.

Priest recently built an innovation lab, or iLab, stocked with tablets, smart boards (interactive whiteboards) and other new technology that non-IT colleagues can dabble

with as they brainstorm about future business applications. IT staff are usually there to collaborate. Promoting consumer-style technology builds bridges between IT and the rest of the company, Priest says. Through iLab, the IT group recently built an application for the legal department to manage contract modifications.

Some CIOs, especially in retail and hospitality, began to chase simplicity in user interfaces years before Apple products pervaded, to improve interactions with customers. But iProliferation has only intensified that search.

"My test for software has always been if I need training on it, it's no good," says David Weick, CIO of McDonald's, which is testing a system that would allow customers in Australia to order burgers and shakes on their smartphones. In the United Kingdom, McDonald's is testing touch screens that accept credit cards. In these settings, customers expect the technology to be familiar and faster than speaking

an order to a cashier, Weick says.

To make these systems easy for consumers, however, the McDonald's IT group must rework back-end systems to be accessible to consumer devices and serve data in a different order and in streamlined formats, he says. "There's complexity in delivering that service, but the skin we need to deliver it on has to be simple," he says.

It's the IT equivalent of da Vinci's notion that "Simplicity is the ultimate sophistication." Steve Jobs liked that idea, too: That quote appeared in early advertising for the Apple Macintosh.

Weick wants other vendors to simplify—and misses no chance to tell them so. In a recent meeting with Oracle president Mark Hurd, Weick "preached the concept," he says. "My team and I need to be focused on McDonald's business. I prefer not to be tasked with integrating all the technical widgets you create," he told Hurd. "I want Oracle to do that. Simplify my life."

—K.S.N.

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Charlene Begley, CIO at General Electric, says she is well aware that IT complexity increases costs and slows the business down.

an average of 6 percent, mainly by stopping new projects and slashing end-user support.

Elite companies, however, reduced IT spending more—by 9 percent—mainly by retiring legacy systems and simplifying their technology environments. At the same time, they kept application development going, introducing new features for employees and customers and watching low-performing competitors tread water on last year's capabilities, he says. "These companies were in a better position to grow."

Despite the crunch, typical companies have so much old, complex IT that they can't think about cutting the staff or systems that keep it going. Pople calls that "entitlement spending" because, like federal programs such as Social Security

and Medicaid, it's difficult to make drastic changes. Letting IT entitlements grow, he says, affects finance and procurement, making these functions more expensive to run than necessary.

Like many companies, FedEx used to build lots of systems specialized for single functions, such as customer service, with their own applications, hardware and databases. FedEx had been running decades-old software and hardware, including a networking architecture built in 1974 and a descendant of 1979-vintage airline transaction-processing software. "We had one or two of everything," Humphries says. The company also had to keep IT staff who knew how to care for the relics. He declines to say whether the company will reduce staff as it shuts down old technology. But he notes that private clouds of virtual servers and

software let the average IT staff member support several business areas.

GE understands the ill effects of too many applications or other forms of complexity, which increase costs and slow the business down, Begley says. It has acquired at least five companies since 2010, all of which came with IT systems that had to be turned off or migrated. The energy division alone accounts for five recent acquisitions, including one company that brought in 39 ERP systems, Begley says. GE signed two more deals recently, which it's expected to close later this year.

ters." For the CEO, it's missing new business because the company is freighted with plodding, confusing technology that costs too much to maintain. For the board of directors, it's managing a crisis after a big security breach is traced to vulnerabilities in systems that aren't fully understood.

When Begley described her simplicity plans to GE's board, she explained that a simpler infrastructure is more secure and easier to protect. "When we have incidents, typically, the root cause is some type of complexity," she says. "Cybersecurity is something our board

"This is about killing complexity.
As you do, you get faster."

-CHARLENE BEGLEY, CIO, GENERAL ELECTRIC

Before Begley became CIO in 2010, GE had no formal time frames for integrating a typical acquisition, she says. "We said, 'Not OK.'" IT will make no headway in simplification if integrations languish, she says. Now, GE is working toward establishing a rule that it has to be done within 18 months. "That's enormous in this company."

Begley has also assigned 1,000 people to refine business processes as part of a project called GE Advantage. "This is about killing complexity. As you do, you get faster. You have speed, lower cost and the flexibility to go faster," Begley says. "It's about competitiveness."

Plan of Attack

Read the mission statements of 100 companies and at least 75 will mention simplicity, says Ron Ashkenas, senior partner at Schaffer Consulting. "We've talked about it for thousands of years. Leonardo da Vinci talked about it, the ancient Greeks talked about it," he says. "But doing it is another thing."

First, CIOs must enlist supporters with pocketbooks, says Ashkenas, who wrote the book *Simply Effective: How to Cut through Complexity in Your Organization and Get Things Done*.

You might appeal to their sense of doom, or as Begley puts it, to "what mat-

ters a lot about. Our company's reputation is at stake."

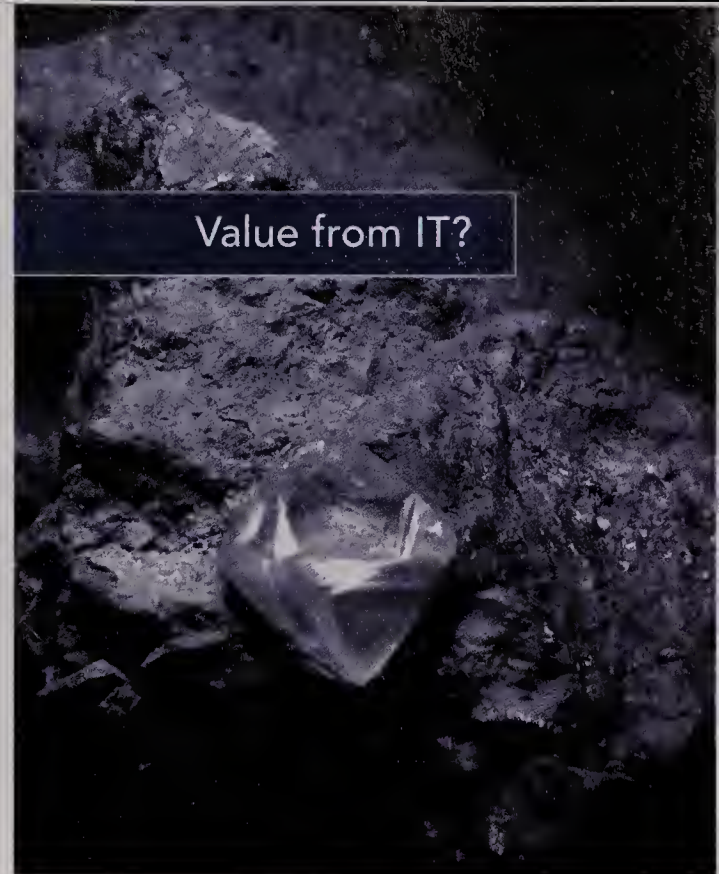
Risk, generally, accompanies older or overly complex IT, Humphries says, and mitigating it was a key part of the business case for FedEx's new data center. "Our infrastructure profile was growing too risky," he says.

Staffing simplicity projects requires some care. Managers often issue unclear directions and take too long to make decisions, Ashkenas says. "Simplification is a concept that can be difficult to articulate. It means more than cutting," he says. For example, rearranging business processes requires understanding large ideas, such as how customers interact with the company or what federal agencies require for compliance. Existing technology must be mapped to show where the information related to those ideas resides. Then debates can begin about what to change.

To make simplicity work, companies need thinkers who are a little bit tactician, but also visionary and inspired by challenge, Ashkenas says. People get depressed by an effort that feels like an exercise in cutting alone, he says.

As Begley subtracts at GE, she is also building. For example, GE opened an IT security center in Virginia last year. So far, 85 employees work there. This summer,

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the company plans to open another IT facility in New Orleans, where up to 300 people will work in enterprise architecture, data management, networking and other functions for GE Capital. A new IT center is under construction in San Ramon, Calif., too. GE expects to hire 1,100 IT workers in all as it pulls back some outsourcing work it had sent to India. Simplification doesn't mean cutting alone, Begley says. "Excellence is the priority."

GE picked top performers across IT and business functions to collaborate in person and by video in conference rooms about how to consolidate processes and applications. They borrowed agile development methods, such as setting weekly milestones and appealing to decision makers to solve problems the same day as they are discovered. "One thing that drives me crazy—I'm not an IT person—is everything seems to be a three-year project," Begley says. "We're trying to get away from [that]."

Spelling out clear goals for each person on the team has kept GE's simplicity quest on track, she says. CIOs in business units have to report to her and their business managers quarterly about whether they made their goals to, say, eliminate a given number of ERP systems. Begley must meet yearly objectives set with Chairman and CEO Jeff Immelt and the board. "We have dashboards with names, dates and the people who care."

She expects payback from this work in two to three years and plans to invest some of the returns in cloud and mobile technology.

Getting It Done

Simplicity doesn't happen naturally, so CIOs should make detailed plans. Tactical moves include whittling down the number of IT suppliers you count as essential, which streamlines more aspects of the operation than technology and support choices do. This may lead to fewer contract negotiations, better pricing and stronger relationships. At GE, each business unit has now chosen core technologies and vendors and intends not to deviate, Begley says. As key software is upgraded, GE's IT group will avoid much customization, which adds complexity and cost. "No matter what you're running, you're going to be more competitive if you go faster. I'm bringing that mind-set to IT," Begley says.

McDonald's uses times of major operating system upgrades to reduce the number of applications and tools. When it recently moved from Windows XP to Windows 7, the company eliminated various personal productivity applications that employees had brought in. "It would have cost us money to make them work on the new OS," Weick says. IT goes through a similar examination when making changes to infrastructure.

Degree of simplicity is an important criteria for McDonald's when IT evaluates a new product. How easy the product is to implement and how fast IT can deploy it matter as much as functionality, he says.

Like a new car, a new IT system starts to decay the moment you turn it on. Servers, laptops and smartphones are machines, after all, and software gets gummed up as it takes in data and interacts with other software. Aging technology requires extra nurturing.

Because every piece of IT has a rate of decay, Wander says, CIOs should create a life plan for each one. This helps keep down how many layers of technology have to be integrated. It also helps companies avoid getting stuck with technology dregs,

"The costs to keep complexity running crowd out investment dollars. **That affects agility.**"

—FRANK WANDER, FOUNDER, I.T. EXCELLENCE INSTITUTE

he says. PowerBuilder was once a hot development tool. Then Sybase, itself a declining database vendor, bought PowerBuilder and the tool lost momentum, he says. "If you don't deal with that complexity, you end up with systems difficult to maintain because you can't get people. Then it's an operational risk."

At McDonald's, Weick's team categorizes technologies as explore and innovate, commercialize and deploy, or enhance and maintain. IT works with business leaders to set investment levels and plans for how each system will move through the cycle. Continuous pruning is a challenge for CIOs, he says. "It's easier to add something new than retire something old. It builds up like plaque in a coronary artery."

Keeping Simplicity Alive

One reason simplification fails, says Humphries at FedEx, is that people don't realize that simplifying is actually pretty complicated. His new data center is supposed to be simpler to run for the IT group and give business units the ability to change course quickly, to get ahead of market events, he says. Building such a facility involves many decisions about technology and design. "You would be shocked to see the walls and walls and walls of excruciating detail to make something very complex end up simplified."

Maintaining simplicity as a state of mind, as Wander envisions, requires that you don't underestimate the ongoing effort involved. After all, doing business brings fresh complexity to IT every day, he says. Mergers and acquisitions won't stop. Nor will rogue IT in departments that circumvent the rules. At the same time, corporate budgets are finite. The noble and concrete reasoning behind a proposed project to consolidate servers or inventory IT assets may not win against a proposal to expand operations in a growing customer market, he says.

Even when simplification projects are rejected, the IT should work that way anyway, he says. "If you're a good CIO, you're doing this all the time." **CIO**

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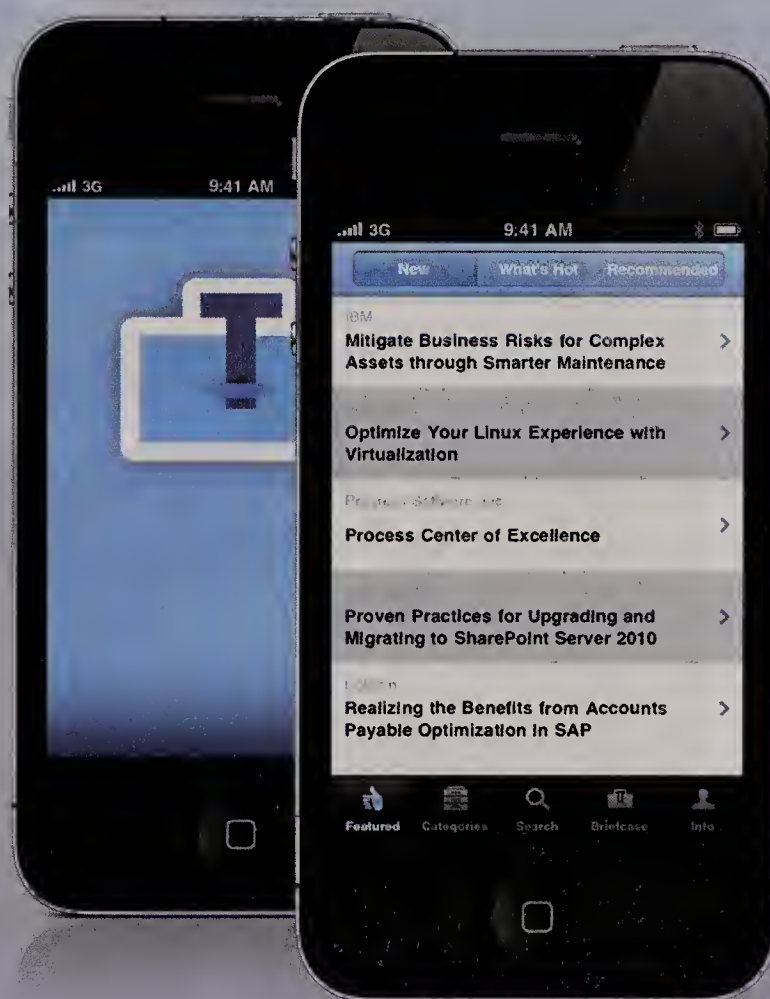
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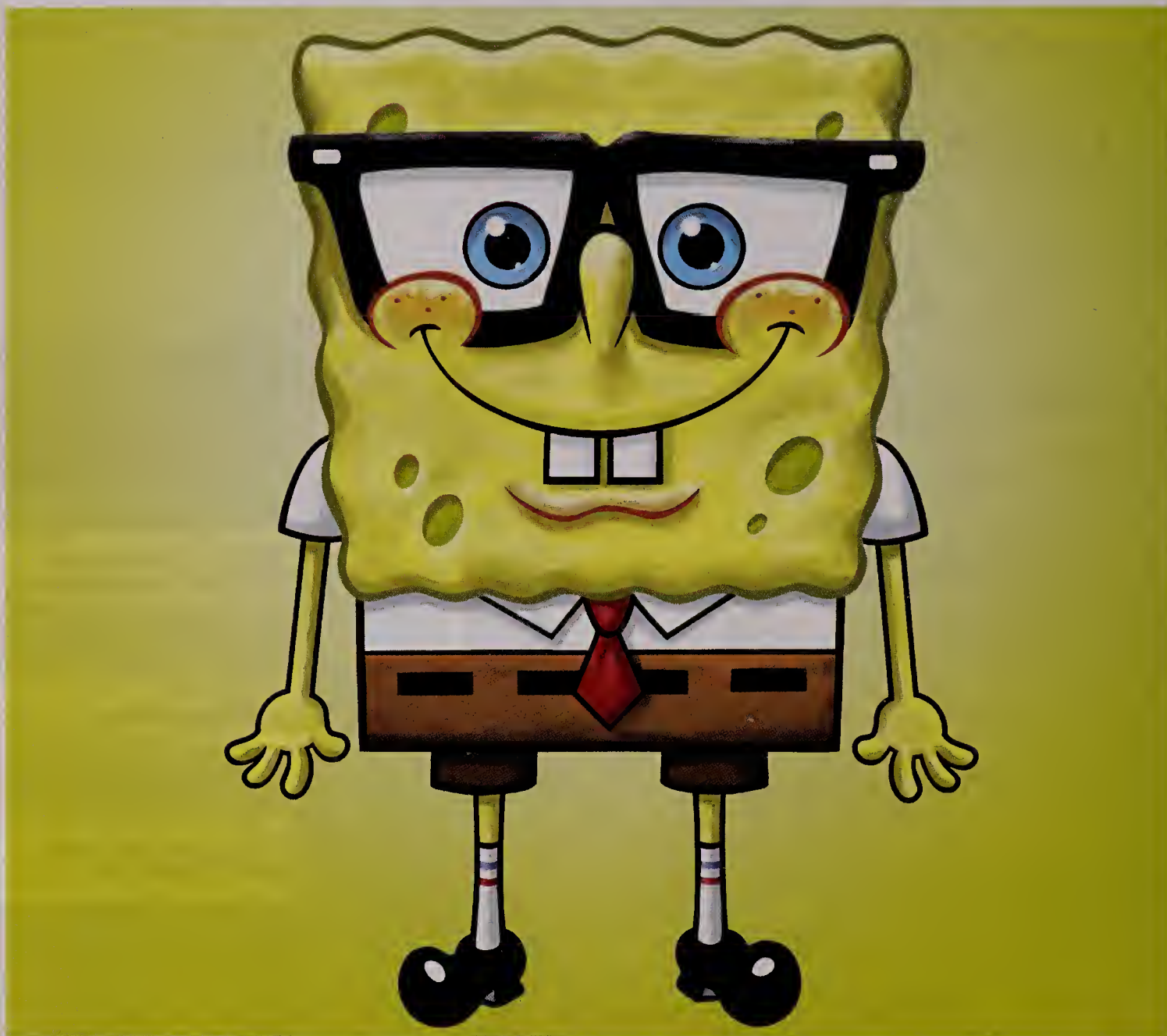
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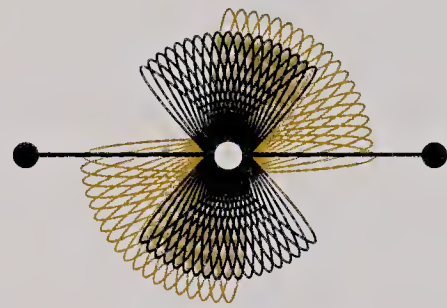
Are You Ready, Kids?

That flat-screen in your den is no longer the center of the TV universe. Viacom's CIO David Kline now needs to deliver shows, like *SpongeBob SquarePants*, to viewers on smartphones, computers and tablets 24 hours a day. To provide faster service even overseas, protect content from piracy, and speed adoption of new business, Kline upgraded the company's 135 domestic media networks to a centralized digital distribution suite. Before, the company needed several workflows to meet the requirements of service providers and the devices on which content is viewed. "They may want it in a certain format, they may want it sized properly," says Kline. Now, whether it's Netflix, Hulu or a cable box, there's one automated process. "The beauty of it is to take their requirements and the system will do it for us," he says. Because the suite also links back to Viacom and its rights-management system, the company can ensure content is being distributed only to licensed platforms and can quickly pull in content for breaking news.

—Lauren Brousell

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